

Subj: DIFDEN flight program proposal
Capt Robert M. Storck, CG 12

Duty Involving Flight Denied (DIFDEN) flight program proposal
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The Marine Corps has invested millions of dollars to train each pilot. To receive the best return on its investment, the USMC requires its aviators to keep their flying skills sharp. The Marine Corps must develop a program for pilots on Duty Involving Flight Denied (DIFDEN) orders designed to pay for up to eight flight hours a month in Federal Aviation Administration rated civil aircraft because this program will ensure aviators remain proficient at flight planning, operational risk management, and crew resource management.

Background

According to MCO 1542.2D, the Flight Indoctrination Program (FIP) was introduced in 1982 and provides payment for civilian flight instruction to qualified members of the Platoon Leaders Course Aviation program. The FIP involves only the financing of the PLC participation in approved civilian flight instruction; it is not a USMC activity or any part of the PLC training requirement. Headquarters Marine Corps is responsible for allocating FIP monies to the respective Marine Corps Recruiting Districts accounting.¹ The Flight Indoctrination Program is a good starting point for introducing the DIFDEN flight program.

The Marine Corps has liaison with civilian flying agencies due to the FIP. This pre-existing link could be modified to include Marine aviators on DIFDEN orders. According to OPNAV 3710.7T, pilots while on duties involving flight operations (DIFOP) must “fly a minimum of 100 hours per year in order to remain qualified as a NATOPS rated pilot.”² This equates to just over eight hours a month. The calculations for the DIFDEN flight program are based on eight hours a month at \$100 per hour.

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Currently, when pilots are out of the cockpit for over 485 days they are required to refresh in the Fleet Replacement Squadron (FRS).³ While at the FRS they fly a specific syllabus developed for refreshers then return to an operational squadron. The refresher syllabus would be more beneficial to the refresher pilot if his basic skills were maintained during his time on DIFDEN orders. This program would allow the pilot to focus on the aircraft systems and not trying to regain flight planning, operational risk management, and crew resource management skills that have atrophied over time. Additionally, pilots are required to receive an annual flight physical even while on DIFDEN orders. FAA physicals would also be required by pilots in the program; however, these can be given by a military flight surgeon with an FAA rating at no charge to the pilot.

Flight Planning

The USMC must develop a program for pilots on DIFDEN orders designed to pay for up to eight hours a month in Federal Aviation Administration rated civil aircraft because this program will ensure aviators remain proficient at flight planning. Flight planning is the process of calculating the weight and power requirements for the current and forecasted weather conditions, determining the route of flight, calculating fuel requirements, developing a communication plan, and locating divert airfields in case of emergency. Flight planning is essential for every flight and helps strengthen the pilots' situational awareness and confidence. The more a pilot can participate in the flight planning process the better he/she will be at recognizing dangerous conditions and mitigating risks.

Crew Resource Management (CRM)

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The USMC must develop a program for pilots on DIFDEN orders designed to pay for up to eight hours a month in Federal Aviation Administration rated civil aircraft because this program will ensure aviators remain proficient at crew resource management. As defined in the CRM instructor course, “Crew Resource Management describes the process of coordinated action among crew members which enables them to interact effectively while performing mission tasks.”⁴ The following seven skills and behaviors have been identified to influence coordination: situational awareness, assertiveness, decision making, communication, leadership, adaptability/ flexibility and mission analysis. OPNAVINST 1542.7C points out “the goal of CRM is to improve mission effectiveness by minimizing crew preventable errors, maximizing crew coordination, and optimizing risk management.”⁵ Flight time is needed to maintain the pilots’ fundamental skills and to ensure they are ready to execute their missions safely. The seven skills can be further maintained and honed in civilian flying.

Even though the OPNAVINST 1542.7C applies only to Military flying it reinforces the notion that practicing CRM in civil or Military aircraft will improve mission effectiveness by stating “practicing CRM principles will improve mission effectiveness and serve to prevent mishaps that result in poor crew coordination.”⁵ The Naval Aviation Safety Center CRM director asserts “if you are doing CRM right, by default, you draw the Operational Risk Management process into your flight operations. Crew Resource Management is the human factors skill set that will enhance the service member’s application of ORM.”⁶

Operational Risk Management (ORM)

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The USMC must develop a program for pilots on DIFDEN orders designed to pay for up to eight hours a month in Federal Aviation Administration rated civil aircraft because this program will ensure aviators remain proficient at operational risk management. Operational Risk Management (ORM) describes the five-step process concerned with mitigating hazards encountered during a mission. OPNAVINST 3500.39B outlines the ORM process. The process includes the following five steps: identify the hazard, assess the hazard, make risk decisions, implement controls, and supervise. Along with the five steps there are also four principles of ORM. These include: accepting risk when benefits outweigh the cost, accepting no unnecessary risk, anticipating and managing risk by planning, and making risk decisions at the right level.⁷ The ORM process is utilized to accomplish Marine Corps activities safely. The ORM process is utilized for every problem the pilot may encounter. The more pilots are able to use the ORM process the more proficient they will become at identifying hazards and taking the proper steps to mitigate the risks.

Counterarguments

Civil flight is administrative not tactical; therefore, civil flights will not benefit Marine aviators.

According the Navy Safety Center, “at the Marine Corps’ current pace, the 2008 fiscal year will be worse than three of the previous five years, with a 2.42 mishap rate. This figure equates to 2.42 mishaps every 100,000 flight hours. Fiscal year 2001 had the best mishap rate at 1.40.”⁸ These statistics show the importance of maintaining Marine pilots’ basic flying skills. The Defense Industry Daily estimates the cost of using the Marine Corps CH-53E is \$20,000 per flight hour.⁹ To maximize the cost effectiveness of the CH-53E and other expensive operating platforms, basic skills should not be the focus

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of training. The DIFDEN flight program would help the pilot maintain his skills, allowing the pilot to make the most out of his flight time without incurring the large cost of using military aircraft. The hours spent in civil aircraft provides an aviator more opportunity to improve decision-making skills and to sharpen situational awareness. Paying \$800 a month or \$9600 a year per eligible DIFDEN pilot is more feasible than the cost to provide similar time in military aircraft. Also, the occurrence of Class A mishaps (mishaps resulting in loss of life or damage over 1 million dollars) would decrease. The Marine Corps would have a stronger pool of pilots, and the Marine Corps would come closer to reaching the 75% mishap reduction goal set by the SECDEF.¹⁰

Light civil aircraft are not in the Marine Corps inventory; therefore, funding Marines to fly them is not a good investment.

Regardless of platform, the Marine pilot's flight planning, CRM and ORM skills would be reinforced during each flight. The principles of flight do not change; therefore, training in light civil aircraft would be invaluable to the Marine Corps. In June 2006, the SECDEF wrote in a memorandum "if we need to change our training, improve our material acquisition or alter our business practices to save the precious lives of our men and women, we will do it". He goes on to say, "We can no longer consider safety as nice-to-have."¹¹ Coincidentally, the DIFDEN program is designed to produce a safer and more experienced aviator.

It would be cheaper to let the aviators fly in the simulators.

Simulator training is an inexpensive method to maintain pilot skills. Flying pilots in a simulator is cheaper than operating a real aircraft, and it would enable them to keep their skills sharp. Capt W.D. Reece, former EWS student, stated in his paper on Marine

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simulators that “Simulators are more cost effective to ‘fly’ on an hourly basis than an actual aircraft. By affording pilots the opportunity to fly more flights and simulate variable conditions under controlled settings, flight simulators both supplement and complement existing flight training.”¹² The downside of the simulators would be getting to and from the simulator facilities. When a pilot is on DIFDEN orders, more than likely, a simulator will not be located in close proximity to his duty station. Simulators are not as readily available as civil aircraft. For example, simulators for the CH-53E are located at MCAS New River and MCAS Miramar. The Marine Corps would need to fund the pilots travel to and from the simulator. These expenses would include airfare, lodging and food expenses. The USMC will have to pay more to have the simulators open on the weekends, due to the fact, Marines in the flight program will be working full time during the week. Additionally, the NAVMC 3500.14 will only allow portions of the refresher syllabus to be completed in a simulator. Despite the simulators realism, they do not develop the pilots’ skills as well as actual flight. When pilots know their planning and in-flight decisions have actual consequences they develop greater confidence and better decision-making skills.

Program Proposal-Example

The new program will be similar to the FIP. The eligibility requirements, funding method, and responsibilities of the involved agencies would be similar to the following:

Guidelines

1. This is an optional program. A contract will be signed by eligible Marines enrolling them in the program. If the pilot disenrolls from the program due to not meeting minimum requirements, he /she will be expected to reimburse the

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government for any expenses. Reasons for disenrollment and repayment will be handled on a case by case basis. (possible examples: family issues, work priorities, ect...)

The DIFDEN flight program involves the financing of civilian flight time, flight instruction, and required materials.

2. Maximum flight time per month is eight hours in either fixed wing or rotary wing aircraft as necessary per MOS.
3. Minimum flight time per month is four hours.
4. This program is based on flight time, not the number of flights.
5. The flight school must have insurance on the rental aircraft, and the pilot must comply with FAA regulations. Flight mishaps will be handled in accordance to FAA guidelines.
6. Pilots involved in mishaps will be investigated by the FAA and their Military unit. Pilots should be considered in the line of duty while participating in this program.

Eligibility (Applicant must meet all criteria)

1. Pilot currently on DIFDEN orders.
2. Received permission to participate in program from commanding officer.
3. Returning to Duty Involving Flight Operations (DIFOP) within 485 days.

Funding

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1. This program will be funded by the Marine Corps Recruiting District where the enrolled Marine is located.
2. All expenses for instruction, required texts, and supplies will be paid for by the Marine Corps. Transportation between the Marine's residence and flight school will be reimbursed at a rate in accordance with joint travel regulations-4203 paragraph 4. A maximum of 140 round trips are authorized.

Conclusion

Civil flying is a valuable resource that can be utilized to ensure pilots are maintaining fundamental skills. The military mishaps rates are climbing due to costly errors not enemy action. Investing money in pilots on DIFDEN orders would help reduce the number of incidents related to human factors. Civil aviation is currently being used to introduce potential aviators to flying before they begin flight school, under the Flight Indoctrination Program. The Marine Corps needs to start utilizing civil aviation to ensure pilots flight planning, operational risk management, and crew resource management skills remain at a high level. The Marine Corps will have better aviators, save money, and reduce the number of mishaps related to human factors when the DIFDEN flight program is developed and implemented.

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Notes

1. MCO 1542.2D. Flight Indoctrination Program
2. OPNAV 3710.7T.
3. NAVMC 3500.14. Pg 4-12
4. Naval Aviation Schools Command, Crew Resource Management, Instructors Course Student Guide. Pg 29
5. OPNAVINST 1542.7T. Crew Resource Management Program
6. Crew Resource Management, Instructors Course Student Guide. Tab. ORM and CRM)
7. OPNAVINST 3500.39B. Operational Risk Management Program
8. John.R.Scott, NSC Statistical Division, phone conversation,(757) 444-7860
9. Defense Industry Daily. *CH-53K: The US Marines HLR Helicopter Program* (updated). <http://www.defenseindustrydaily.com/ch-53k-the-us-marines-hlr-helicopter-program-updated-01724/>
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